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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,042	07/11/2003	Hiroshi Mori	AD6894USNA	6916

23906 7590 05/18/2005

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WILMINGTON, DE 19805

EXAMINER

HARAN, JOHN T

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/618,042

Applicant(s)

MORI, HIROSHI

Examiner

John T. Haran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
4a) Of the above claim(s) 9 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-8 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/21/03, 12/17/03.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-8, drawn to a process for laser welding polyester articles, classified in class 156.
 - II. Claim 9, drawn to a laser welded polyester article, classified in class 428.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as laser welding at different conditions or welding through ultrasonic means or inductance means.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. Arne Jarnholm on 5/16/05 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-8. Affirmation of this election must be made by applicant in replying to this Office action. Claim 9 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Information Disclosure Statement

5. The information disclosure statements (IDS) submitted on 11/21/03 and 12/17/03 have been considered by the examiner.

Double Patenting

6. Applicant is advised that should claim 4 be found allowable, claim 5 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jones (WO 00/20157).

Jones discloses a laser transmission welding method for joining a laser beam transparent plastic article with a laser beam opaque plastic article wherein a laser beam is directed through the laser beam transparent article to the laser beam opaque article, which has a radiation absorber mixed therein, wherein the laser beam opaque article absorbs the laser radiation and is heated causing the junction of the articles to melt and join together (See Figure 1, page 6, line 22 to page 7, line 15). The laser power is between 10W and 500W and the welding speed is between 5-200 mm/sec (30-1200 cm/min) (page 7, lines 35-37). Jones teaches that the plastic articles can be a variety of plastics including polyester (page 11, lines 10-13). Jones anticipates claims 1-3.

In the alternative it would have been obvious to one of ordinary skill in the art at the time the invention was made when laser welding polyester articles in the method of Jones to utilize a laser beam energy not greater than 100 W or 70 W and a speed of not greater than 1000 cm/min or 300 cm/min. One skilled in the art would have readily appreciated that the parameters listed in Jones would vary from plastic material to plastic material and would have readily appreciated finding the optimum parameters for the welding of polyester articles.

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10. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (WO 00/20157) as applied to claims 1-3 above, and further in view of Ruotsalainen (U.S. Patent 6,802,929).

Regarding claims 4 and 5, Jones is silent towards the specific types of polyesters that are transmission laser welded together, however it is well known and conventional to laser weld polyesters such as polyethylene terephthalate (PET) and polybutylene terephthalate (PBT), as shown for example in Ruotsalainen (Column 3, lines 28-37). Furthermore, one skilled in the art would have readily appreciated welding different polyesters together. It would have been obvious to one of ordinary skill in the art at the time the invention was made to laser weld a PET article to a PBT article in the method of Jones, as such are conventional polyesters.

Regarding claims 6-8, Jones is silent towards adding carbon black or nigrosine dye or a combination thereof to the opaque article as the radiation absorber, however both are conventional radiation absorber additives. Furthermore, one skilled in the art would have readily appreciated determining the necessary amount of additive to add to achieve the desired radiation absorption effect. It would have been obvious to use such conventional materials as the radiation absorber and to add them in the appropriate amount.

11. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being obvious over Koshida (WO 02/057353) in view of Jones (WO 00/20157).

The applied reference (Koshida) has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Koshida discloses a laser transmission welding method for joining a laser beam transparent plastic article with a laser beam opaque plastic article wherein a laser beam is directed through the laser beam transparent article to the laser beam opaque article, which has a radiation absorber mixed therein, wherein the laser beam opaque article absorbs the laser radiation and is heated causing the junction of the articles to melt and join together (page 1, line 30 to page 2, line 2). Koshida teaches the articles are

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preferably polyester resins (page 6, lines 16-20). Koshida is silent towards the laser beam energy and scanning speed.

Jones discloses a laser transmission welding method for joining a laser beam transparent plastic article with a laser beam opaque plastic article wherein a laser beam is directed through the laser beam transparent article to the laser beam opaque article, which has a radiation absorber mixed therein, wherein the laser beam opaque article absorbs the laser radiation and is heated causing the junction of the articles to melt and join together (See Figure 1, page 6, line 22 to page 7, line 15). The laser power is between 10W and 500W and the welding speed is between 5-200 mm/sec (30-1200 cm/min) (page 7, lines 35-37). Jones teaches that the plastic articles can be a variety of plastics including polyester (page 11, lines 10-13).

One skilled in the art would have readily appreciated that the parameters listed in Jones would vary from plastic material to plastic material and would have readily appreciated finding the optimum parameters for the welding of polyester articles. It would have been obvious to one of ordinary skill in the art at the time the invention was made when laser welding polyester articles in the method of Koshida to utilize a laser beam energy not greater than 100 W or 70 W and a speed of not greater than 1000 cm/min or 300 cm/min.

Regarding claims 4 and 5, Koshida teaches laser welding polyesters such as polyethylene terephthalate (PET) and polybutylene terephthalate (PBT) (page 7, lines 6-21) and that the transmitting resin and opaque resin can be the same or different (page 6, lines 9-10). It would have been obvious to one of ordinary skill in the art at the time

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the invention was made to laser weld a PET article to a PBT article in the method of Koshida.

Regarding claims 6-8, Koshida teaches adding carbon black or nigrosine dye or a combination thereof to the opaque article as the radiation absorber (page 12, lines 26-34). One skilled in the art would have readily appreciated determining the necessary amount of additive to add to achieve the desired radiation absorption effect. It would have been obvious to use such conventional materials as the radiation absorber and to add them in the appropriate amount.

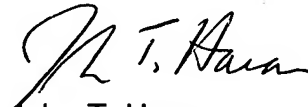
Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John T. Haran whose telephone number is (571) 272-1217. The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John T. Haran
Examiner
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